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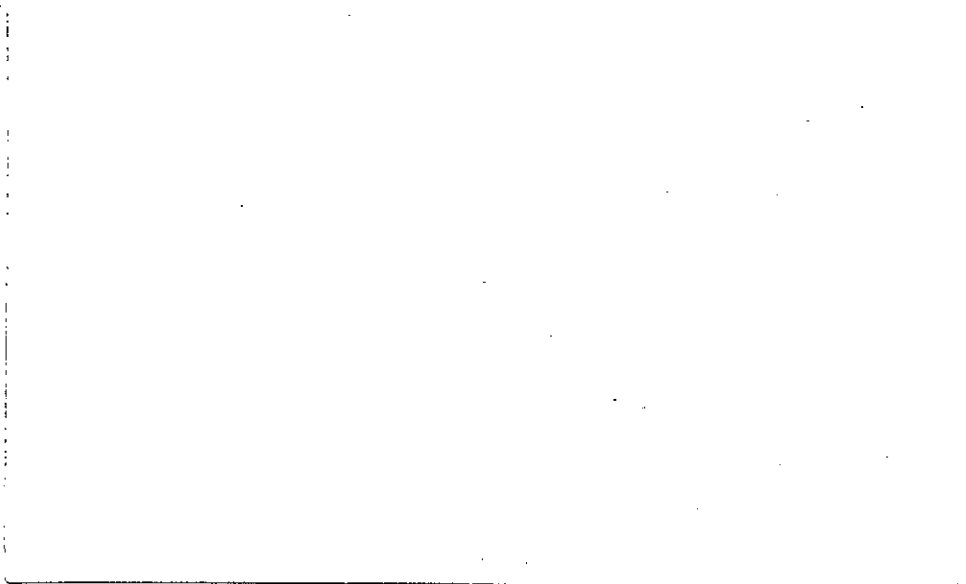
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# **Acid Waters Monitoring 2005 Report on Fish Studies**

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Date:

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## **1. INTRODUCTION**

The UK Acid Waters Monitoring Network (UKAWMN) was set up in 1988 on the recommendation of the UK Acid Waters Review Group. It comprises 22 sites throughout England, Wales, Scotland and Northern Ireland situated in those parts of the country most susceptible to acidification. Biological and chemical parameters are monitored and collated by several specialist laboratories throughout the country and the network is managed by and administered by ENSIS Ltd at the Environmental Change Research Centre, University College London.





## **2. OBJECTIVES**

The objective of the network is to provide long-term, high quality chemical and biological data, which in conjunction with data from the existing UK Precipitation Monitoring Network will facilitate the assessment of trends in surface water acidity.

Data from all sites are collated and analysed yearly and this report details the results from the surveys of the fish populations of the sites for year 18 of the study (2005). Full site descriptions and details of the methodology used are detailed in a separate report (Patrick *et al* 1991). Results from all the biological and chemical surveys are produced in an annual report to the Department of the Environment, Transport and the Regions and the Environment and Heritage Service, Northern Ireland by ENSIS Ltd. Analysis and interpretation of the biological and chemical data at each site are presented in five yearly reports (Patrick, Monteith and Jenkins 1995, Monteith and Evans 2000).



### 3. FISH POPULATION DATA ANALYSIS: 2005

Fish population surveys of the UK Acid Waters Monitoring sites were carried out between 5/9/2005 and 20/10/2005. Table 1 gives site details and dates of sampling.

Sites 8 & 9 were not fished this year due to high water levels. Only two reaches of Site 5 were fished again because of high water. Site 11 was not fished due to time constraints after a late change in group contracted to carry out the fishing.

Table 2 gives the data from the fish surveys. Population estimates (exact maximum likelihood) are calculated using the CEH "Remove" program (Clarke 1992). Data are stratified into 0+ and >0+ fish and are tabulated for each reach fished (lower, middle and upper). Data are presented for: catch (C); estimated population number (N), the value of 2 times the standard error of the population estimate (SE\*2) which approximately equals the 95% confidence limit of the estimate where  $N > 30$ ; capture efficiencies (P); and fish population densities (D), the value for twice the standard error of the density estimate (SE\*2), chi square values (X2) and a code indicating the status of the data. Codes given are: ME - density value is minimum estimate based upon actual catch; LC - catch low (<30) for accurate population estimate; IV - significant chi square value renders population estimate invalid; and V - valid population estimate. It should be noted that even when there is a significant chi square value the density estimate is still based upon the estimated population number where it is considered that it is still the best estimate available.

Data are also calculated for the total site (as distinct from reach) and are presented as follows: total site catch (TC); estimated total site population number (TN), calculated by adding the estimated reach population estimates, the value of 2 times the standard error of the population estimate (SE\*2), calculated from the formula:  $\text{Var}(T) = \sqrt{(\text{SE}(N_i))^2}$ ; and the mean site density (XD) together with its 2\*SE value (SE\*2). Where fish have been caught in a reach but no population estimate has been possible only total catch (TC) and mean density data (XD) are shown. The data for the mean density are calculated from the reaches where population data are available and minimum population density estimates, based on actual catch, where population data are not available.

Population data have been stratified into 0-group and >0-group fish. As a result of this many of the population estimates are below the limits recommended for valid estimation of population numbers (Bohlin 1982) and error estimates may be imprecise.

Data for the sites are presented in the following tables and graphs.

#### 3.1 Trout

Only 9 stratified population estimates were possible that fully complied with the criteria required for valid population estimation. The other population estimates therefore should be considered indicative rather than absolute. Three sites had catch patterns that resulted in invalid population estimates.

Where it was possible to calculate population data, capture efficiencies for trout ranged from 47% to 87%. Only 1 estimates had an efficiency below 50% and none estimate had efficiencies below 40%.

Figure 1 shows trout densities at each site. Densities are for all age groups combined. Due to low densities at most sites values are expressed as trout per 100 m<sup>2</sup>. Where trout were found to be present, site mean densities ranged from 0.87 to 60.93 fish per 100 m<sup>2</sup>.

Figure 2 show age-stratified trout data at each site since 1988. Data are also expressed as trout per 100 m<sup>2</sup> (NF indicates the site was not fished that year). Note that sites 17 and 18 have changed during the course of the project. Full analyses of these data are incorporated in the 5-year interpretative reports.

### **3.2 Salmon**

Salmon data are presented in Table 3 and Figure 3. Data for the past 7-years have been age stratified in a similar manner to the trout, however as the data before 1999 has not as yet been stratified, total site density data is shown to enable for across year comparison.

### **3.3 Minor Species**

Information on the non-salmonid species caught at each site is shown in Table 4. Sites where presence is recorded are probably a minimum.

### **3.4 GPS Locations**

Table 5 shows GPS locations for the sites fished. Where possible contractors should obtain GPS fixes for the top and bottom of all the reaches fished. This will reduce reliance on continuity of personnel and allow long-term site continuity.

#### 4. REFERENCES

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Milner N J, Hemsworth R J and Jones B E (1985) Habitat evaluation as a fisheries management tool. *J. Fish Biol.* 27 85-108.

Monteith D T and Evans C D (2000) UK Acid Waters Monitoring Network: 10 Year Report. Analysis and Interpretation of Results, April 1988 - March 1998. *Report to DETR and EHS (NI) March 2000 ENSIS Ltd.*

Patrick S, Waters D, Juggins S and Jenkins A (1991) The United Kingdom Acid Waters Monitoring Network: Site descriptions and methodology report. *Report to DOE and DOE (NI) April 1991 ENSIS Ltd.*

Patrick S, Monteith D T and Jenkins A (1995) UK Acid Waters Monitoring Network: The First Five Years.



**Table 1**

<b>Contractor and Contact name</b>	<b>Site</b>	<b>Date Sampled</b>	<b>Flow Conditions</b>	<b>Comments</b>
FRS P Collen	1. Loch Coire nan Arr outflow	-	-	Replaced by Site 23.
"	2. Allt a Mharcaidh outflow	19/9/05	Mod/Low	
"	3. Allt na Coire nan con (Pollock Burn)	5/10/05	Mod	
"	4. Lochnagar outflow	16/9/05	Mod	
"	5. Loch Chon outflow	14/9/05	Mod/High	Upper reach not fished
"	6. Loch Tinker outflow	9/9/05	Mod	
"	7. Round Loch of Glenhead outflow	18/10/05	Mod	
"	8. Loch Grannoch outflow	Not fished		Not fished due to high water
"	9. Dargal Lane	Not fished		
"	23. Loch Coire Fionnaraich	7/9/05	Mod/High	
CEH Dorset W Beaumont	10. Scoat Tarn outflow			
"	11. Burnmoor Tarn outflow	Not fished		Logistical problems due to change of contractor
NRA NW-Region	12. River Etherow	Not fished		
QMUL A Hildrew	13. Old Lodge	20/10/05	Mod	
Plymouth Univ R Haslam	14. Narrator Brook	16/9/05	Average	
EA Wales - Bangor R Thomas	15. Llyn Llgi outflow	12/9/05	Normal	
"	16. Llyn Cwm Mynach outflow	14/9/05	Normal	
EA Wales - Llanelli D Scranny	17. Afon Hafren	21/9/05	Normal	
"	18. Afon Gwy	22/9/05	Normal	
DARD / AESD I Moffett	19. Beaghs Burn	5/9/05	Moderate	
"	20. Ben Crom River	13/9/05	Low	
"	21. Blue Loch outflow	12/9/05	Low	
"	22. Cony Glen Burn	6/9/05	Mod/Low	





Table 2

TROUT 2005			LOWER REACH												
Site No	Name	AGE	C1	C2	C3	C4	TC	Area	N	SE*2	P (%)	D	SE*2	X2	CODE
1	Coire nan arr		No longer fished												
2	Allt a Mharcaidh	0+	48	15	2		65	152	65	0.00	77	0.428	0.00	1.39	V
		>0+	10	3	0		13		13	0.00	81	0.086	0.00	0.93	LC
3	Coire nan Con	0+	55	17	2		74	378	74	0.00	78	0.196	0.00	1.78	V
		>0+	2	0	2		4					0.010		5.50	LCIV
4	Lochnagar	0+	2	6	1	0	9	69	9	0.00	53	0.130	0.00	8.40	LCIV
		>0+	8	3	2	1	14		14	0.00	58	0.203	0.00	0.57	LC
5	Water of Chon	0+	74	40	15		129	338	143	13.70	54	0.423	0.04	0.78	V
		>0+	4	3	1		8		8	0.00	62	0.024	0.00	0.92	LC
6	Loch Tinker	0+	0	1	0		1	105				0.010			ME
		>0+	1	0	0		1					0.010			ME
7	Round loch of Glenhead	0+	4	1	0		5	54	5	0.00	83	0.093	0.00	0.26	LC
		>0+	2	1	0		3		3	0.00	75	0.056	0.00	0.51	LC
8	Loch Grannoch	0+	NOT FISHED				0								
		>0+					0								
9	Dargal Lane	0+	NOT FISHED				0								
		>0+					0								
23	Loch Coire Fionnaraich	0+	2	1	0		3	380	3	0.00	75	0.008	0.00	0.51	LC
		>0+	3	1	0		4		4	0.00	80	0.011	0.00	0.34	LC
10	Scoat Burn	0+	1	0			1	73				0.014			ME
		>0+	11	2			13		13	0.00	87	0.178	0.00	0.37	LC
11	Burnmoor Tarn	0+	NOT FISHED				0								
		>0+					0								
12	Etherow		Not fished												
13	Old Lodge	0+	1	2	1			135				0.030			ME
		>0+	7	5	4				15	7.21	52	0.111	0.05	0.32	LC
14	Narrator Brook	0+	2	3	0		5	69	5	0.00	63	0.072	0.00	3.70	LC
		>0+	13	10	4		27		31	7.27	47	0.449	0.11	0.86	V
15	Llyn Llgi	0+	0	0	0		0	144							
		>0+	1	0	0		1					0.007			ME
16	Llyn Cwm Mynach	0+	7	2	3		12	155	13	2.84	52	0.084	0.02	1.84	LC
		>0+	3	1	1		5		5	0.00	63	0.032	0.00	0.75	LC
17	Afon Hafren	0+	2	1	1		4	209	4	0.00	57	0.019	0.00	0.84	LC
		>0+	5	4	1		10		10	0.00	63	0.048	0.00	1.44	LC
18	Afon Gwy	0+	3	2	0		5	293	5	0.00	71	0.017	0.00	1.32	LC
		>0+	4	1	1		6		6	0.00	67	0.020	0.00	0.78	LC
19	Beagh's Burn	0+	2	1			3	166	3	0.00	75	0.018	0.00		LC
		>0+	1	0			1					0.006			ME
20	River Bencrom	0+	2	1			3	183	3	0.00	75	0.016	0.00		ME
		>0+	2	0			2					0.011			ME
21	Blue Lough	0+	0	1	0		1	80				0.013			ME
		>0+	2	1	0		3		3	0.00	75	0.038			ME
22	Conyglan Burn	0+	15	7	2		24	234	24	0.00	69	0.103	0.00	0.86	LC
		>0+	10	3	0		13		13	0.00	81	0.056	0.00	0.93	LC

**Table 2 (continued)**

TROUT 2005			MIDDLE REACH													
Site No	Name	AGE	C1	C2	C3	C4	TC	Area	N	SE*2	P (%)	D	SE*2	X2	CODE	
1	Coire nan arr		No longer fished													
2	Allt a Mharcaidh	0+ >0+	85 12	27 4	12 4	3 0	127 20	226	128 20	2.20 0.00	67 63	0.566 0.088	0.01 0.00	0.72 3.64	V V	
3	Coire nan Con	0+ >0+	12 1	4 0	0 0		16 1	224	16	0.00	80	0.071 0.004	0.00	1.37	LC ME	
4	Lochnagar	0+ >0+	12 15	6 4	0 4		18 23	53	18 24	0.00 2.59	75 61	0.340 0.453	0.00 0.05	3.05 1.87	LC LC	
5	Water of Chon	0+ >0+	104 6	41 4	11 2		156 12	497	162 13	6.77 2.84	66 52	0.326 0.026	0.01 0.006	0.80 0.40	V LC	
6	Loch Tinker	0+ >0+	1 0	0 0	0 0		1 0	102				0.010 0.000			ME	
7	Round loch of Glenhead	0+ >0+	4 2	1 0	0 0		5 2	85	5	0.00	83	0.059 0.024	0.00	0.26	LC ME	
8	Loch Grannoch	0+ >0+	NOT FISHED				0 0									
9	Dargal Lane	0+ >0+	NOT FISHED				0 0									
23	Loch Coire Fionnaraich	0+ >0+	6 2	3 1	0 0		9 3	358	9 3	0.00 0.00	75 75	0.025 0.008	0.00 0.00	1.53 0.51	LC LC	
10	Scoat Burn	0+ >0+	0 1	0 2			0 3	88				0.000 0.034			IV	
11	Burnmoor Tarn	0+ >0+	NOT FISHED				0 0									
12	Etherow		Not fished													
13	Old Lodge	0+ >0+	0 12	0 3	0 1		0 16	132	0 16			0.000 0.121				
14	Narrator Brook	0+ >0+	16 21	7 12	4 3		27 36	134	29 38	4.22 4.01	56 60	0.216 0.284	0.03 0.03	0.26 1.17	LC V	
15	Llyn Llgi	0+ >0+	0 2	0 0	0 0		0 2	159				0.000 0.013			ME	
16	Llyn Cwm Mynach	0+ >0+	4 2	0 0			4 2	119				0.034 0.017			ME ME	
17	Afon Hafren	0+ >0+	0 3	0 2	0 0		0 5	127				0.000 0.039				
18	Afon Gwy	0+ >0+	4 3	1 1	0 1		5 5	227	5 5	0.00 0.00	83 63	0.022 0.022	0.00 0.00	0.26 0.75	LC LC	
19	Beagh's Burn	0+ >0+	1 0	0 0			1 0	151				0.007 0.000				
20	River Bencrom	0+ >0+	1 3	0 1			1 4	233				0.004 0.017			LC	
21	Bluc Lough	0+ >0+	0 0	0 0			0 0	88				0.000 0.000				
22	Conyglan Burn	0+ >0+	19 7	4 5	0 0		23 12	253	23 12	0.00 0.00	85 71	0.091 0.047	0.00 0.00	0.86 3.51	LC LC	

**Table 2 (continued)**

TROUT 2005		UPPER REACH													
Site No	Name	AGE	C1	C2	C3	C4	TC	Area	N	SE*2	P (%)	D	SE*2	X2	CODE
1	Coire nan arr		No longer fished												
2	Allt a Mharcaidh	0+	78	31	9		118	267	123	6.30	65	0.461	0.02	0.43	V
		>0+	28	20	2		50		53	5.16	60	0.199	0.02	6.53	IV
3	Coire nan Con	0+	15	2	2		19	235	19	0.00	76	0.081	0.00	2.28	LC
		>0+	3	0	0		3					0.013			ME
4	Lochnagar	0+	9	3	0		12	67	12	0.00	80	0.179	0.00	1.03	LC
		>0+	6	0	0		6					0.089			ME
5	Water of Chon	0+	NOT FISHED				0								
		>0+					0								
6	Loch Tinker	0+	17	2	1		20	88	20	0.00	83	0.227	0.00	0.85	LC
		>0+	1	0	0		1					0.011			ME
7	Round loch of Glenhead	0+	2	1	0		3	44	3	0.00	75	0.068	0.00		LC
		>0+	1	0	0		1					0.022			ME
8	Loch Grannoch	0+	NOT FISHED				0								
		>0+					0								
9	Dargal Lane	0+	NOT FISHED				0								
		>0+					0								
23	Loch Coire Fionnaraich	0+	4	3	1		8	322	8	0.00	62	0.025	0.00	0.92	LC
		>0+	2	1	0		3		3	0.00	75	0.009	0.00	0.51	LC
10	Scoat Burn	0+	1	0			1	85				0.012			ME
		>0+	1	0			1					0.012			ME
11	Burnmoor Tarn	0+	NOT FISHED				0								
		>0+					0								
12	Etherow		Not fished												
13	Old Lodge	0+	5	1	1		7	142	7	0.00	70	0.049	0.00	0.86	LC
		>0+	8	4	2		14		14	0.00	64	0.099	0.00	0.84	LC
14	Narrator Brook	0+	11	9	2		22	150	24	4.43	54	0.160	0.03	2.03	LC
		>0+	16	11	1		28		29	2.57	64	0.193	0.02	3.92	LC
15	Llyn Llgi	0+	0	0			0	164				0.000			
		>0+	1	0			1					0.006			ME
16	Llyn Cwm Mynach	0+	6	5	2		13	103	14	2.73	52	0.136	0.03	0.94	LC
		>0+	2	0	0		2					0.019			ME
17	Afon Hafren	0+	4	1	0		5	136	5	0.00	83	0.037	0.00	0.26	LC
		>0+	7	5	2		14		15	2.75	54	0.110	0.02	0.62	LC
18	Afon Gwy	0+	3	0	0		3	193				0.015			ME
		>0+	2	2	1		5		5	0.00	56	0.026	0.00	1.06	LC
19	Beagh's Burn	0+	0	0			0	111				0.000			
		>0+	0	0			0					0.000			
20	River Bencrom	0+	0	0			0	171				0.000			
		>0+	2	1			3		3	0.00	75	0.018	0.00		LC
21	Blue Lough	0+	0	0	0		0	93				0.000			
		>0+	1	1	0		2					0.021			ME
22	Conyglan Burn	0+	9	4	0		13	193	13	0.00	77	0.067	0.00	1.82	LC
		>0+	11	4	0		15		15	0.00	79	0.078	0.00	1.50	LC

**Table 2 (continued)**

TROUT 2005		SITE TOTAL					
Site No	Name	AGE	TC	TN	SE*2	XD	SE*2
1	Coire nan arr		No longer fished				
2	Alit a Mharcaidh	0+	310	316	2.23	0.485	0.01
		>0+	83	86	1.72	0.124	0.01
3	Coire nan Con	0+	109	109	0.00	0.116	0.00
		>0+	8			0.009	
4	Lochnagar	0+	39	39	0.00	0.216	0.00
		>0+	43			0.248	
5	Water of Chon	0+	285	305	7.64	0.375	0.04
		>0+	20	21	1.42	0.025	0.00
6	Loch Tinker	0+	22			0.082	
		>0+	2			0.007	
7	Round loch of Glenhead	0+	13	13	0.00	0.073	0.00
		>0+	6			0.034	
8	Loch Grannoch	0+	NOT FISHED				
		>0+					
9	Dargal Lane	0+	NOT FISHED				
		>0+					
23	Loch Coire Fionnaraich	0+	20	20	0.00	0.029	0.00
		>0+	10	10	0.00	0.014	0.00
10	Scoat Burn	0+	2			0.009	
		>0+	17			0.075	
11	Burnmoor Tarn	0+	NOT FISHED				
		>0+					
12	Etherow		NOT FISHED				
13	Old Lodge	0+	7	7	0.00	0.026	0.00
		>0+	30	45	2.40	0.110	0.02
14	Narrator Brook	0+	54	58	2.04	0.149	0.01
		>0+	91	98	2.90	0.309	0.04
15	Llyn Llgi	0+	0			0.000	
		>0+	4			0.009	
16	Llyn Cwm Mynach	0+	29			0.085	
		>0+	9			0.023	
17	Afon Hafren	0+	9			0.019	
		>0+	29	30	0.92	0.066	0.01
18	Afon Gwy	0+	13			0.018	
		>0+	16	16	0.00	0.023	0.00
19	Beagh's Burn	0+	4			0.008	
		>0+	1			0.002	
20	River Bencrom	0+	4			0.007	
		>0+	9			0.015	
21	Blue Lough	0+	1			0.004	
		>0+	5			0.020	
22	Conyglan Burn	0+	60	60	0.00	0.087	0.00
		>0+	40	40	0.00	0.060	0.00

**Table 3**

SALMON 2005		LOWER REACH													
Site No	Name	AGE	C1	C2	C3	C4	TC	Area	N	SE*2	P (%)	D	SE*2	X2	CODE
2	Allt a Mharcaidh	0+	2	1	1		4	152	4	0.00	57.0	0.026	0.00	0.84	LC
		>0+	4	2	0		6		6	0.00	75.0	0.039	0.00	1.02	LC
3	Coire nan Con	0+	70	17	4		91	378	92	2.32	76.0	0.243	0.01	0.02	V
		>0+	10	3	1		14		14	0.00	74.0	0.037	0.00	0.15	LC
SALMON 2005		MIDDLE REACH													
Site No	Name	AGE	C1	C2	C3	C4	TC	Area	N	SE*2	P	D	SE*2	X2	CODE
2	Allt a Mharcaidh	0+	2	2	0	0	4	226	4	0.00	67.0	0.018	0.00	1.95	LC
		>0+	1	0	0	0	1					0.004			ME
3	Coire nan Con	0+	25	17	6		48	224	54	8.82	51.0	0.241	0.04	1.17	V
		>0+	13	1	1		15		15	0.00	83.0	0.833	0.00	1.81	LC
SALMON 2005		UPPER REACH													
Site No	Name	AGE	C1	C2	C3	C4	TC	Area	N	SE*2	P	D	SE*2	X2	CODE
2	Allt a Mharcaidh	0+	3	1	0		4	267	4	0.00	80.0	0.015	0.00	0.34	LC
		>0+	2	1	0		3		3	0.00	75.0	0.011	0.00	0.51	LC
3	Coire nan Con	0+	40	6	4		50	235	50	0.00	78.0	0.213	0.00	3.21	V
		>0+	29	15	0		44		44	0.00	75.0	0.187	0.00	7.88	IV
SALMON 2005		SITE TOTAL													
Site No	Name	AGE					TC		TN	SE*2		XD	SE*2		
2	Allt a Mharcaidh	0+					12		12	0.00		0.020	0.00		
		>0+					10		9	0.00		0.018	0.00		
3	Coire nan Con	0+					189		196	3.04		0.232	0.01		
		>0+					73		73	0.00		0.352	0.00		



**Table 4      Minor Species Present**

Minor Species Present																
		LOWER					MIDDLE					UPPER				
Site No	Name	"No Other Spp" Recorded	Minnow	Eel	Stickleback	Other	"No Other Spp" Recorded	Minnow	Eel	Stickleback	Other	"No Other Spp" Recorded	Minnow	Eel	Stickleback	Other
2	Allt a Mharcaidh															
3	Coire nan Con		✓	✓					✓				✓	✓		
4	Lochnagar															
5	Water of Chon															
6	Loch Tinker		✓					✓		✓			✓		✓	
7	Round loch of Glenhead													✓		
8	Loch Grannoch															
9	Dargal Lane															
23	Loch Coire Fionnaraich			✓										✓		
10	Scoat Burn															
11	Burnmoor Tarn															
12	Etherow															
13	Old Lodge															
14	Narrator Brook															
15	Llyn Llgi			✓					✓			✓				
16	Llyn Cwm Mynach															
17	Afon Hafren	✓					✓					✓				
18	Afon Gwy															0+ salmon
19	Beagh's Burn			✓					✓							
20	River Bencrom	✓					✓					✓				
21	Blue Lough	✓					✓					✓				
22	Conyglan Burn	✓							✓			✓				

**Table 5 GPS locations**

Site No	Name		Lower	Middle	Upper
1	Coire nan arr	Bottom of Reach Top of Reach			
2	Allt a Mharcaidh	Bottom of Reach Top of Reach			
3	Coire nan Con	Bottom of Reach Top of Reach			
4	Lochnagar	Bottom of Reach Top of Reach			
5	Water of Chon	Bottom of Reach Top of Reach			
6	Loch Tinker	Bottom of Reach Top of Reach			
7	Round loch of Glenhead	Bottom of Reach Top of Reach			
8	Loch Grannoch	Bottom of Reach Top of Reach			
9	Dargal Lane	Bottom of Reach Top of Reach			
23	Loch Coire Fionnaraich	Bottom of Reach Top of Reach			
10	Scoat Burn	Bottom of Reach Top of Reach	NY 15240 09883 NY 15276 09887	NY 15712 10228 NY 15736 10270	NY 15763 10309 NY 15800 10339
11	Burnmoor Tarn	Bottom of Reach Top of Reach			
12	Etherow	Bottom of Reach Top of Reach			
13	Old Lodge	Bottom of Reach Top of Reach			
14	Narrator Brook	Bottom of Reach Top of Reach			
15	Llyn Llagi	Bottom of Reach Top of Reach			
16	Llyn Cwm Mynach	Bottom of Reach Top of Reach			
17	Afon Hafren	Bottom of Reach Top of Reach	SN 84306 87876	SN 84244 87869	SN 84234 87956
18	Afon Gwy	Bottom of Reach Top of Reach	SN 82401 85400 +/- 6m	SN 82273 85415	SN 82211 85470 +/- 8m
19	Beagh's Burn	Bottom of Reach Top of Reach			
20	River Bencrom	Bottom of Reach Top of Reach			
21	Blue Lough	Bottom of Reach Top of Reach			
22	Conyglan Burn	Bottom of Reach Top of Reach			





Mean trout densities / 100m<sup>2</sup> (all ages) at each site 2005.

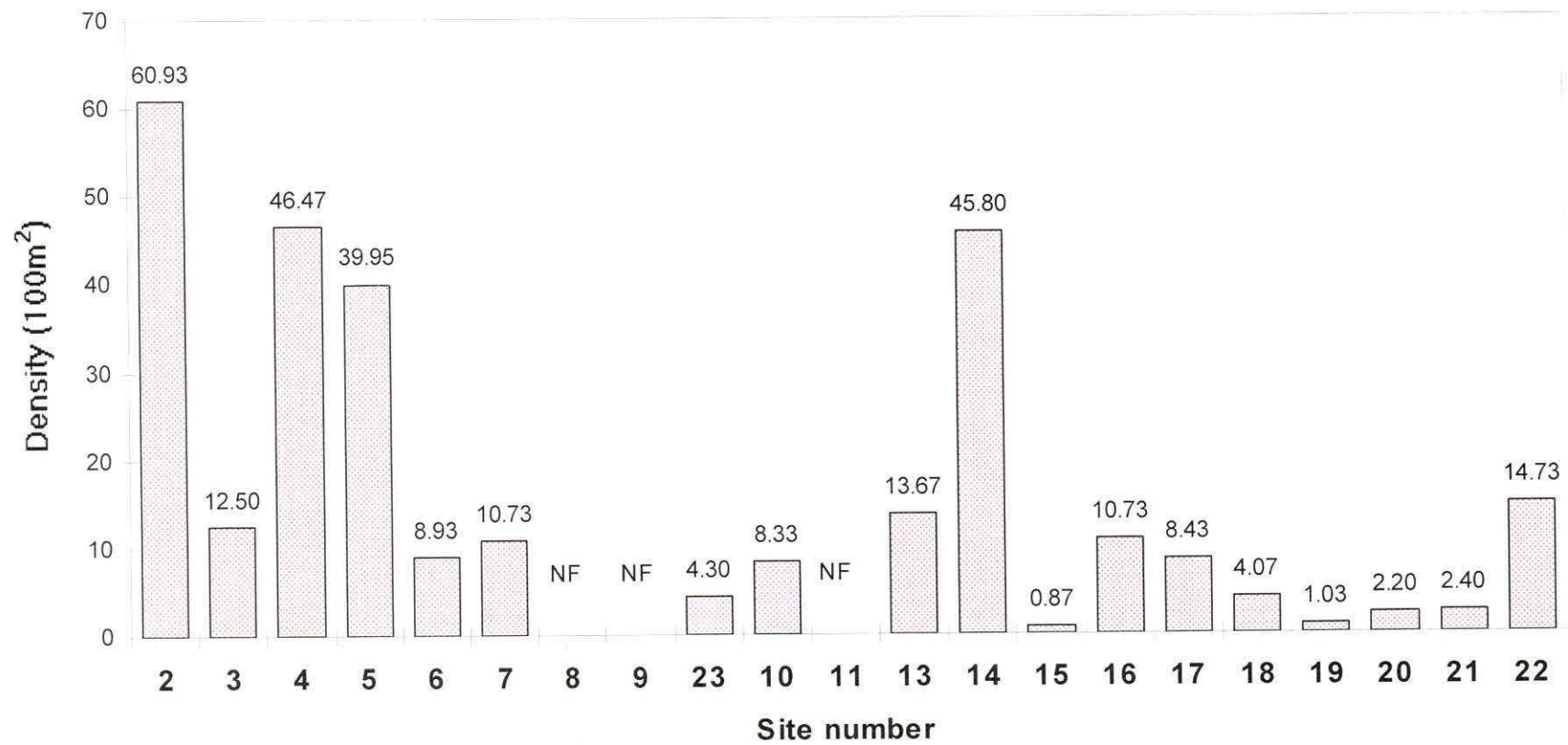
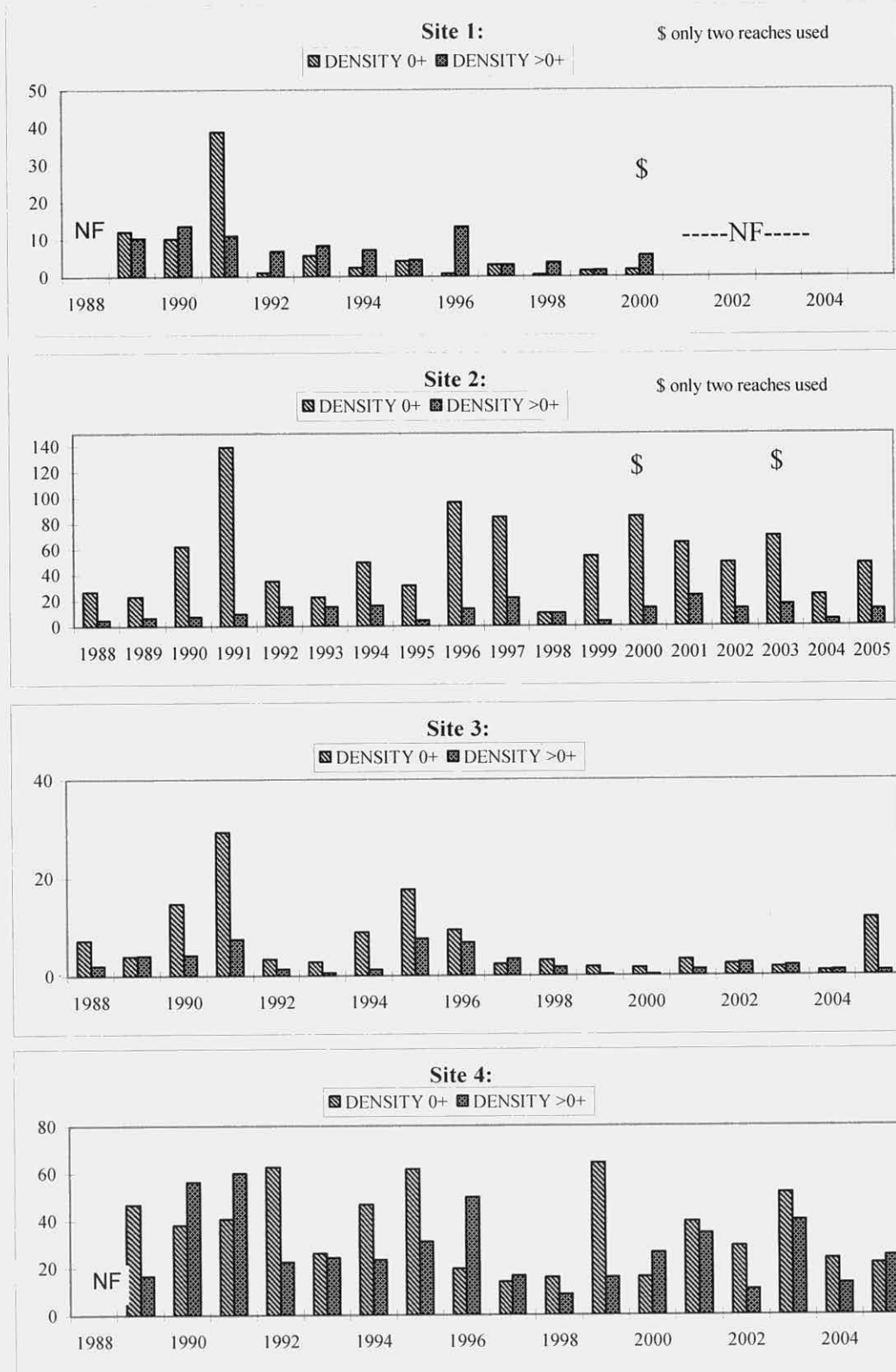


Figure 1 Mean density of trout (all age groups) per 100 m<sup>2</sup>

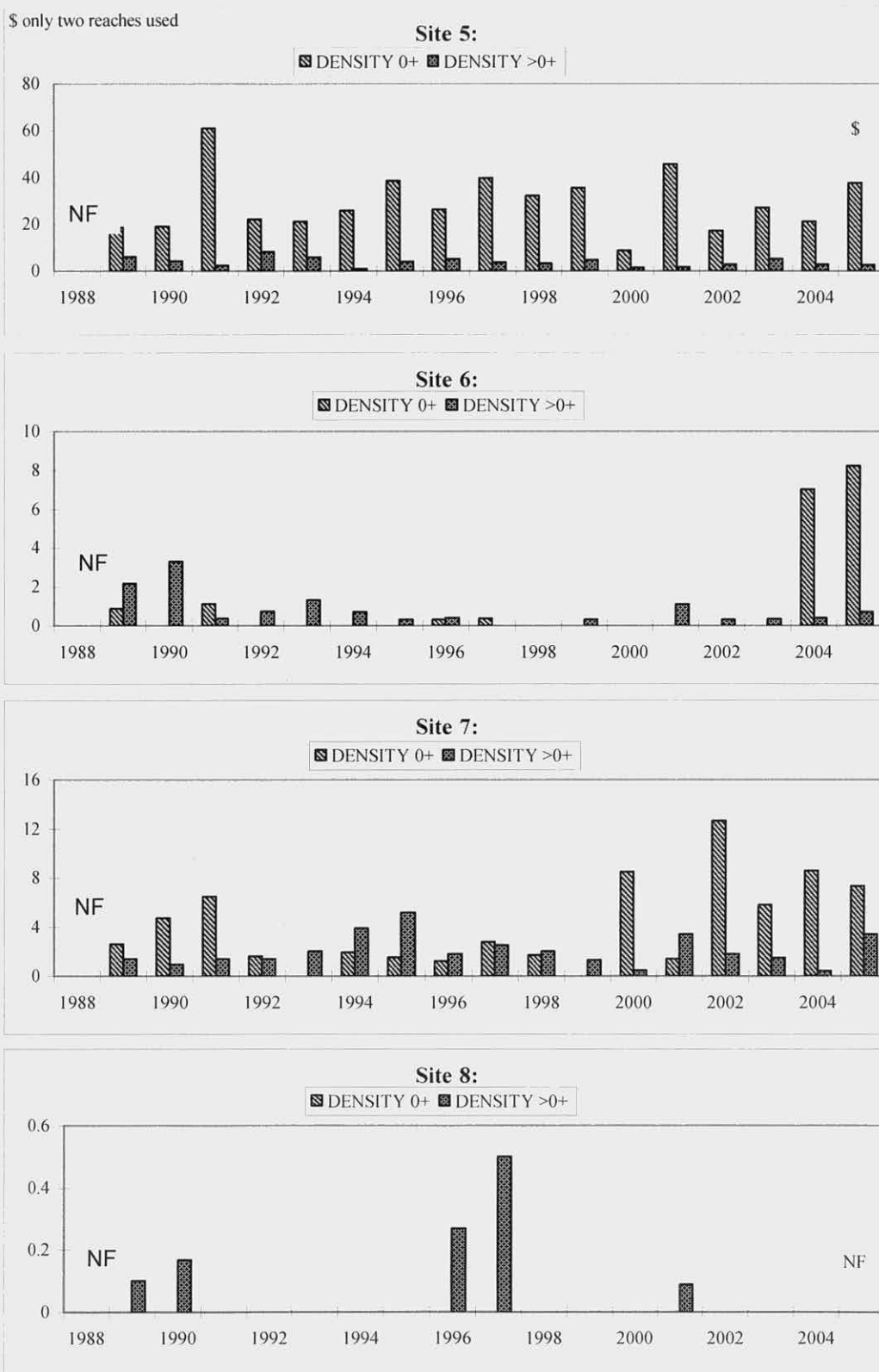
NF denotes site not fished



NF denotes site not fished

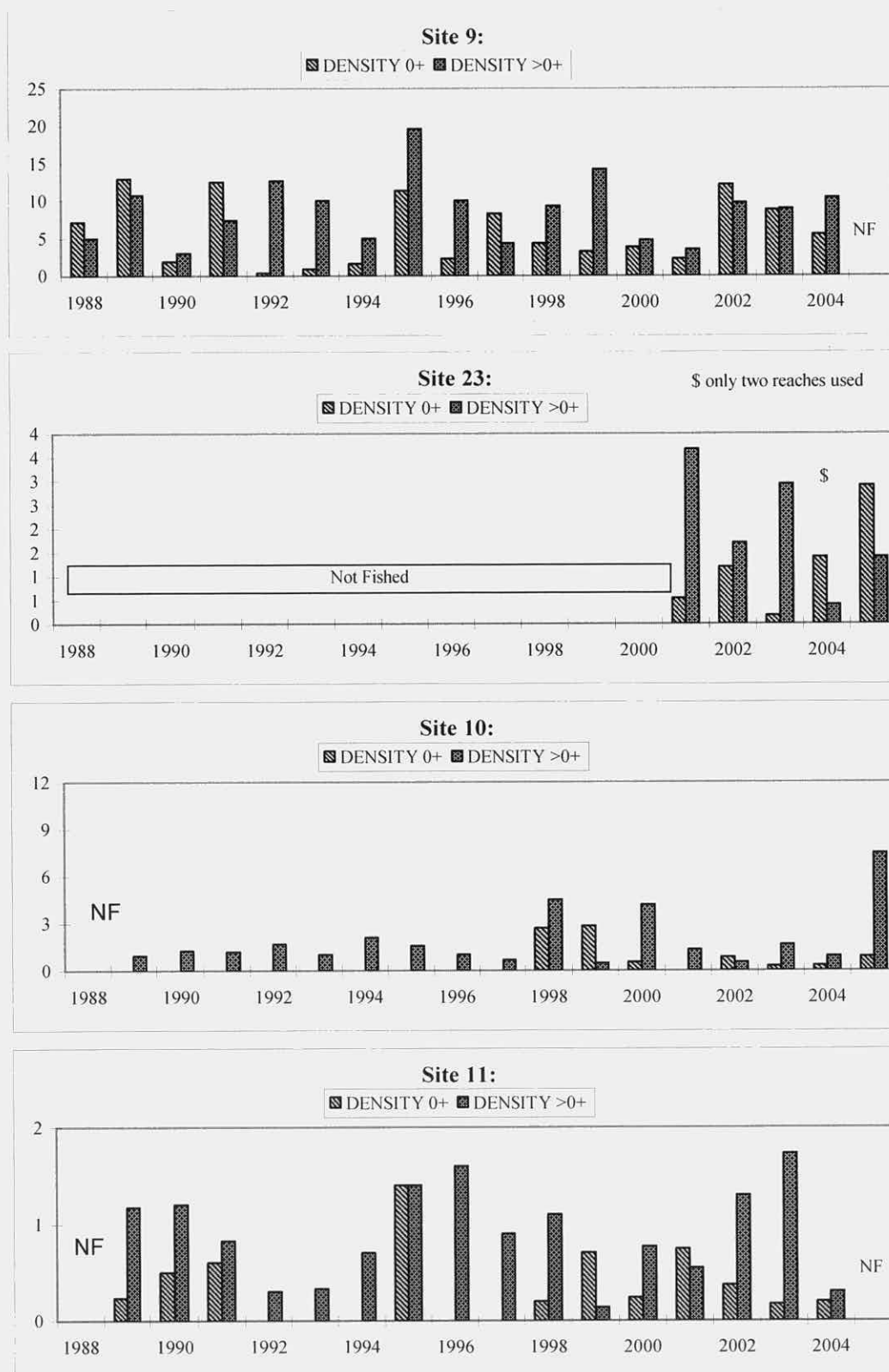
\$ denotes that not all three reaches fished

**Figure 2** Mean Site Density of Trout/100 m<sup>2</sup>



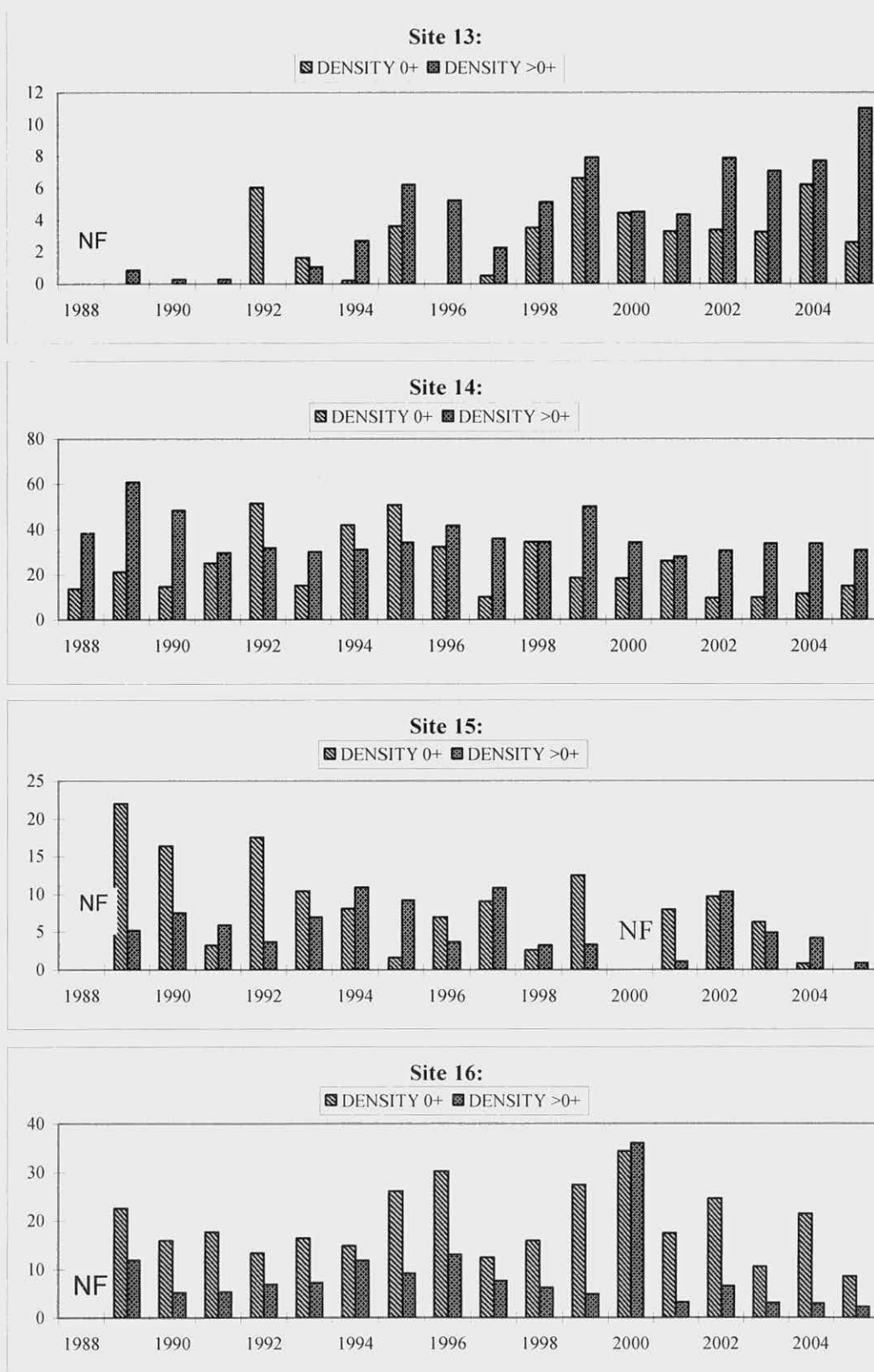
NF denotes site not fished

**Figure 2 (continued)**



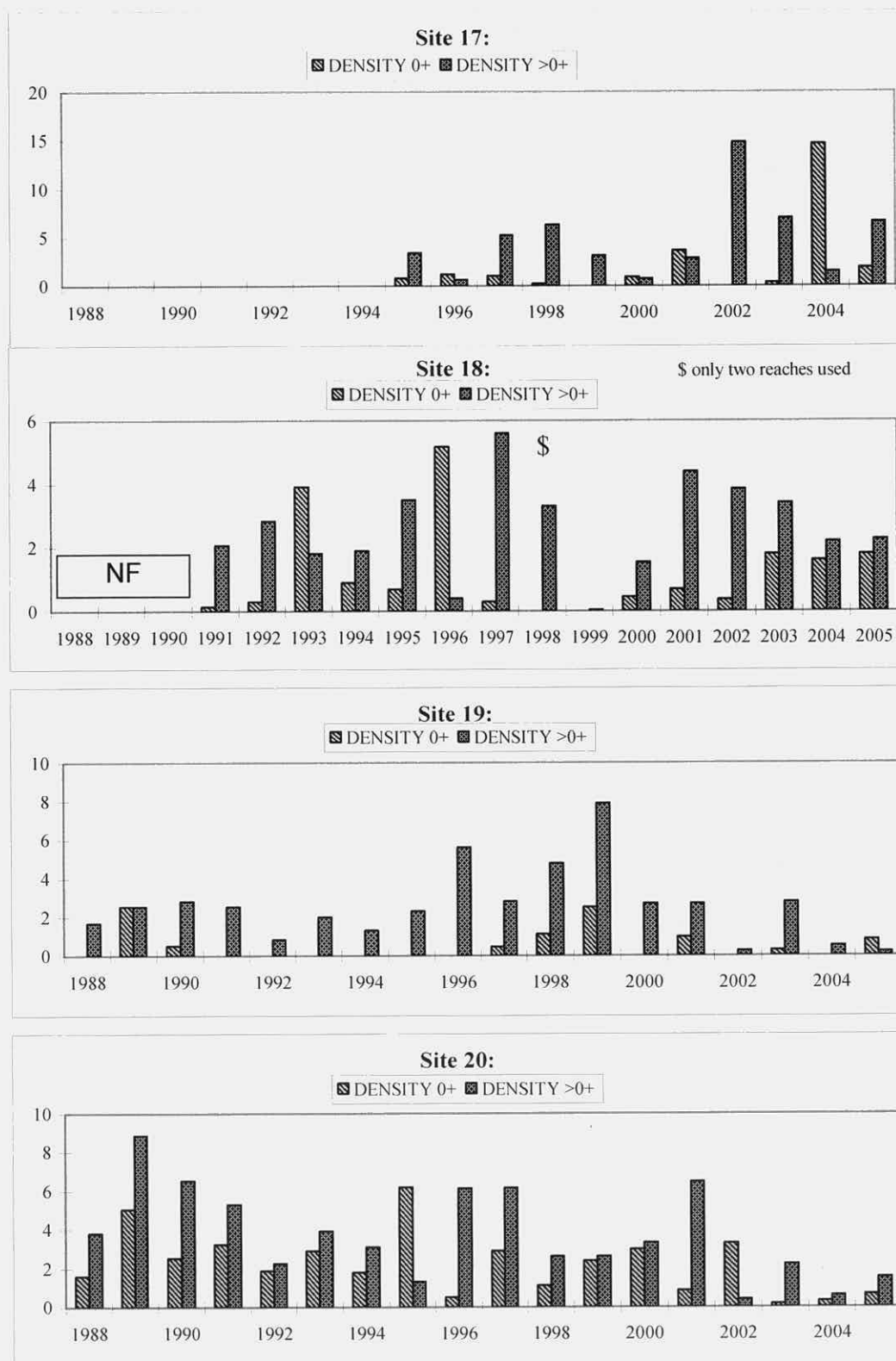
NF denotes site not fished

**Figure 2 (continued)**



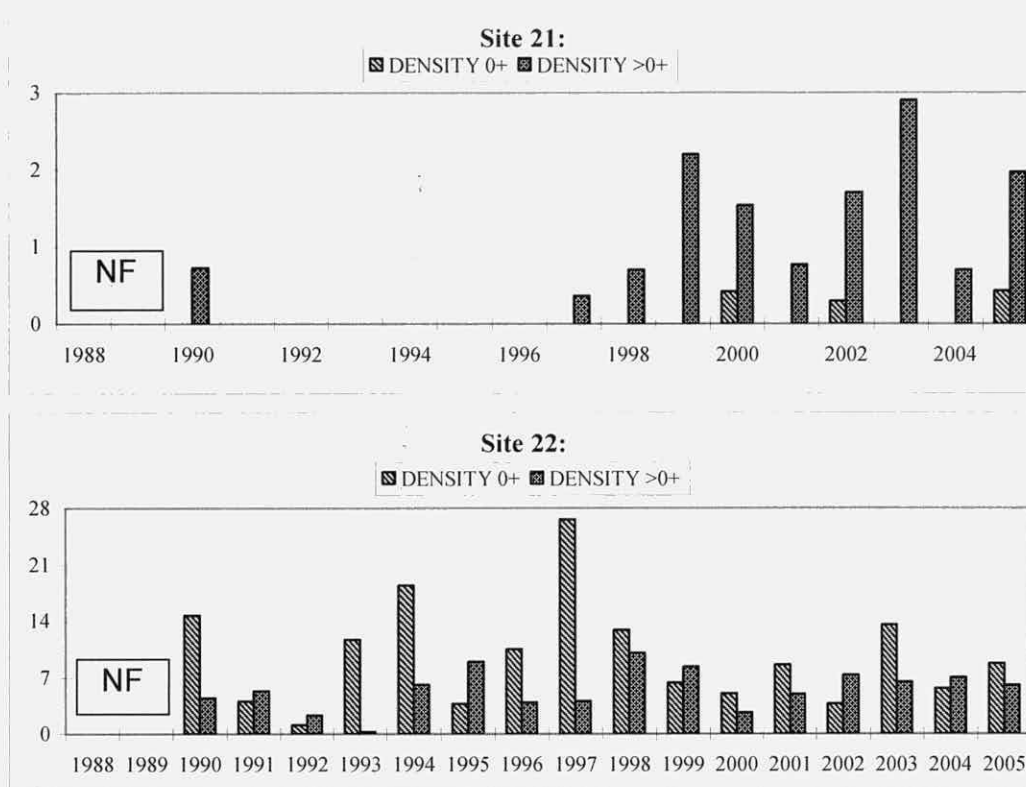
NF denotes site not fished

**Figure 2 (continued)**



NF denotes site not fished

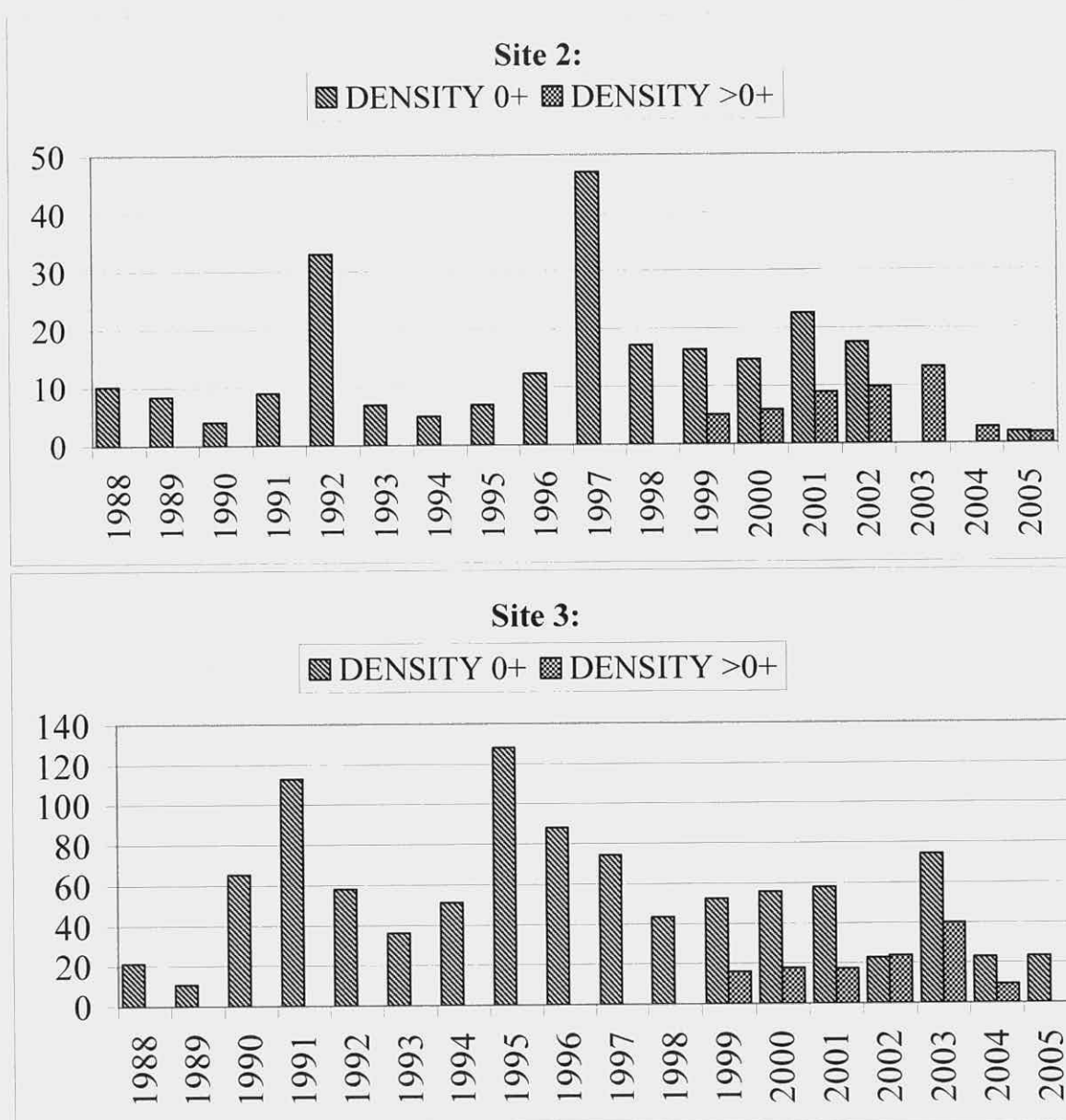
**Figure 2 (continued)**



NF denotes site not fished

**Figure 2 (continued)**





**Figure 3      Mean Site Density of Salmon/100 m<sup>2</sup>**



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